



MATCH-AT V5.1.1

Patch: Widened limits for adjustment

Patch: Performance enhancement for PMT

Restrictions: Proposed tpgprocc.ini settings require several tries

Restrictions: No resume function available if computation stops

Restrictions: No multiple cameras supported in boresight calibration

MATCH-AT V5.1.0

New Feature: Support of Pushbroom – ADS40 Data

New Feature: New Photo Measurement Tool PMT

New Feature: Hardware Requirements for Stereo-Measurement

New Feature: Model Intersections for Control Point Check as Separate Report to be Called from Triangulation Dialogue

New Feature: Support for Standard Mouse and 3D Cursor in Photo Measurement

New Feature: Simplification of Measuring Additional Tie Points Manually

New Feature: Full Automatic Point Transfer in Point Measurement Tool

New Feature: Multiple Stereo Measurement Viewers for Point Measurement

Patch: Approximate Pre-positioning of Horizontal and Vertical Control Points

Patch: No Longer 3rd Party Window Manager (Exceed/NutCracker) Required

Patch: Adjustment Reports New Settings for tpgprocc.ini, in case Adjustment Limits are Exceeded.

Patch: Corrections in Thinout Routines

Patch: Bug-fixing

Restrictions: tpgprocc.ini / Number of Images to be Processed

Restrictions: Stereo Measurement – No Comparator Mode Available

Restrictions: Statistics File 5.0 Incompatible with Version 5.1

Restrictions: Photo Measurement Tool PMT Does Not Support Sub-blocks

MATCH-AT V5.1.1

Patch: Widened limits for adjustment

The limits for the adjustment – stored in the tpgprocc.ini file - have been widened to address the needs of larger projects. E.g. the maximum number of connections for one photo to other photos can range up to 300 now. The new limits have been tested with blocks with 60%/30% overlap and 10000 photographs and with 1000 images at 90%/80% overlap.

Patch: Performance enhancement for PMT

The photo measurement tool has been revised for various changes in order to enhance the performance especially with large projects. Loading times, measurement performance and tables now are optimized to work with more than 10000 frame images and hundreds of thousands of image observations.

Restrictions: Proposed tpiprocc.ini settings require several tries

The adjustment proposes new settings for the tpiprocc.ini file if the internal adjustment limits are exceeded. It might be necessary to have several tries to get the working settings.

In order not to start the tie point extraction again and again and again, do not close the triangulation dialogue as this will delete all temporary files. Change the settings in the tpiprocc.ini file (located in the documents and settings sub-folders of each user). Start the tpiprocc.exe file from the command line (in the project directory) and check if the new settings would work.

Restrictions: No resume function available if computation stops

At the moment there is no resume function available that continues the tie point matching process if a previous adjustment failed.

Restrictions: No multiple cameras supported in boresight calibration

At the moment only one set of boresight angles is computed for calibration. Use sub-blocks in order to compute the boresight misalignment for different cameras within one project.

MATCH-AT V5.1.0

New Feature: Support of Pushbroom – ADS40 Data

INPHO's photogrammetric software package supports now pushbroom sensor data of the ADS40 camera from Leica Geosystems. The image format levels 0 and 1 are fully supported and can be used in all applications for image processing and display. ApplicationsMaster allows the definition of projects. MATCH-AT Pushbroom enables the aerial triangulation for the ADS40 images. MATCH-T DSM can be used to automatically measure terrain or surface models which can be then checked and modified by DTMaster. Finally orthophotos can be generated with OrthoMaster. The sensor orientation data formats created by MATCH-AT Pushbroom are compatible with the ones created by GPRO.

MATCH-AT Pushbroom requires a license which can be acquired as an extension to MATCH-AT or as a stand-alone license. All other modules are supporting ADS40 data without an extra license.

In case of processing level 0 images the different bands can't be currently combined to color composites. Such color composites are in preparation for further releases as well as the support of other pushbroom images.

New Feature: New Photo Measurement Tool PMT

From Version 5.1 on, all stereo measurement functions of tie and control points are included as a standard feature of the new PMT. The former module MATCH-AT stereo is obsolete.

New Feature: Hardware Requirements for Stereo-Measurement

The usage of the stereo measurement functions of PMT of course stereo compatible hardware is required. Minimum requirement is a graphics board that supports OpenGL 1.5 or greater and that runs with DirectX 9.0 or greater. In those "minimum" cases the stereo display is using anaglyph stereo and users would need red-cyan or red-green anaglyph glasses. This mode will also work with standard LCD screens
For more sophisticated full color stereo, the software requires high-end Open GL graphics boards that are able to run a sequential stereo display in a window. We recommend NVidia Quadro FX boards. Also to run the stereo mode, be sure to have a stereo monitor (CRT) running at recommended 120 Hz refresh rate. Standard LCD displays will work in anaglyph stereo mode only. For Stereo LCD displays, INPHO recommends the SD series stereo displays from planar (www.planar.com) in combination with NVidia Quadro FX graphics board.

New Feature: Model Intersections for Control Point Check as Separate Report to be Called from Triangulation Dialogue

The computation of model-wise intersections of control points and check points that was first introduced in the 5.0.1 version is no longer part of the aat.log file. From version 5.1. on, the check computation is to be called from within the “Triangulation” dialogue. A separate listing is created that includes the base-height ratio per intersection in order to have a better understanding of the check values (a bad base-height ratio means a bad geometry or bad intersection angles and therefore explains bad check results).

New Feature: Support for Standard Mouse and 3D Cursor in Photo Measurement

The stereo measurement viewers of the photo measurement tool supports the usage of a standard mouse or of a 3D cursor. In general the standard mouse is sufficient for the point measurement, however optionally the “Immersion 3D cursor” or the “Immersion compatible Stealth Mouse” can be used. Both require a serial port on the computer (USB is not yet supported).

New Feature: Simplification of Measuring Additional Tie Points Manually

The new photo measurement tool makes it a lot easier to add additional tie points manually. Point IDs are automatically proposed to avoid conflicts with already existing point IDs. New tie points can be measured directly inside the BlockView (patch mosaic) or the so-called TopoView (block overview with image stamps). The measurement mode “automatic” will automatically transfer the measurement into all overlapping images. The Multi-Aerial viewer or Multi-Stereo viewer will automatically show all required images.

New Feature: Full Automatic Point Transfer in Point Measurement Tool

In addition to the manual and semi-automatic measurement modes, an automatic LSM mode is now available to measure ground control points or additional tie points. Selecting a location for the point inside either the BlockView or TopoView or in only one of the opened measurement windows will automatically transfer the points into all required images. A parameter can be specified to select the number of image pyramid levels (multi-resolution) to be used for the matching as the automatic LSM mode is an iterative process. Depending on the quality of the existing orientation parameters less or more pyramid levels need to be considered.

New Feature: Multiple Stereo Measurement Viewers for Point Measurement

The new photo measurement tool displays a point to be measured in a multi-stereo view. I.e. if a 6-fold point is to be measured in 6 images, the view will show 5 stereo windows simultaneously. The models are formed by using a selectable reference image with all possible combinations.

Patch: Approximate Pre-positioning of Horizontal and Vertical Control Points

Unlike the previous photo measurement tool, now also horizontal control points and vertical control points show a predicted position in the measurement views (if at least a coarse XY position is available). For vertical control points the mean terrain height of the image is used to project the point into the image.

Patch: No Longer 3rd Party Window Manager (Exceed/NutCracker) Required

By replacing the previous photo measurement tool, the 3rd party window manager environment (Exceed/NutCracker) is obsolete. This solves a lot of smaller issues. The amount of images able to be displayed in the photo measurement tool is now much higher than before (tested with 3000 photos).

Patch: Adjustment Reports New Settings for tpgprocc.ini, in case Adjustment Limits are Exceeded.

For larger blocks (>2500 images) depending on overlap, number of points etc. sometimes the internal limits for the equation system were exceeded. The limits are not yet adapted automatically but in case of a memory overflow, the software proposes new settings for the tpgprocc.ini file usually located in the c:\documents and settings\all users\application data\inpho\applicationmaster\settings directory. Change the values inside this file temporarily and continue the triangulation.

Patch: Corrections in Thinout Routines

The thinout routines now can be used with sub-block definitions. 2-fold points are kept in the block if they are located at strip edges and if the corresponding option is selected.

Patch: Bug-fixing

Several minor software bugs have been fixed with version 5.1.

Restrictions: tpgprocc.ini / Number of Images to be Processed

The number of images able to be processed as one complete block in the adjustment is depending on various project parameters such as overlap, number of points, processing parameters etc. With all "internal" settings remaining unchanged from the installation about 2500 images with standard overlap (60/30) should not be a problem for the adjustment. By adapting the internal limits of the tpgprocc.ini file (c:\documents and settings\all users\application data\inpho\applicationmaster\settings) it might be possible to scale the project size up to about 6000 images, but still e.g. the overlap of the images can cause the size of the equation system to exceed the limits. The adjustment itself will not adapt the tpgprocc.ini file, however new settings will be proposed in the aat.log file. The settings can be changed in any text editor. It might be necessary to try new settings

Release Notes – MATCH-AT V5.1

May 2008

6

several times and like mentioned above, there is not a guarantee that the new settings will be successful. It is planned to automatically adapt those settings in the future.

The number of connections between images is limited to 99. I.e. one image can connect to 99 other images by at least one tie point.

Restrictions: Stereo Measurement – No Comparator Mode Available

The stereo measurement implemented in the PMT photo measurement tool is now an epipolar based stereo viewer that requires an existing relative orientation. This makes stereo measurements easier, however, it makes a stereo-measurement impossible if the orientations are not yet parallax free.

Restrictions: Statistics File 5.0 Incompatible with Version 5.1

Opening a 5.0.x project in the 5.1 version results in a warning about an incompatible statistics file. To have a MATCH-AT statistics file that is compatible with the 5.0 versions. Please re-run the post-processing to create the 5.1 compatible statistics file.

Restrictions: Photo Measurement Tool PMT Does Not Support Sub-blocks

The current release of the photo measurement tool PMT does not support sub-blocks. It is planned to change that with a patch for the 5.1 version.

Should you have any questions regarding the technical details of software, please contact your Support Team at support@inpho.de.